RE: New Jersey Turnpike Authority
Engineering Consultant Prequalification

Dear:

This responds to your interest in becoming prequalified with the New Jersey Turnpike Authority and your request for Engineering, Architectural and Environmental Consulting Services Prequalification forms.

A complete set of prequalification documents is enclosed. To apply for prequalification as a prime consultant, you need to furnish the Authority with information about the firm's history, size, capabilities, filing status (SBE, etc.) and other general information and identify the specialty fields in which you seek to be prequalified. Documentation in support of this request for prequalification must be provided in the specified format. Information you provide in the specified format will be entered into our consultant prequalification database. Only those firms that have prequalified for the type of services each project entails will be considered and solicited for Expression of Interest or Technical Proposals. If you file as a SBE firm, you must submit a copy of an unexpired SBE Certificate issued to your firm by the N.J. Department of Commerce and Economic Development. Prequalification is not required for subconsultant services.

The package enclosed includes a Professional Services Prequalification Questionnaire, a blank "Request for Prequalification" form, and a listing of specialty fields identified by services group/profile code. You must copy the "Request for Prequalification" form, and for each separate service group/profile code for which you seek prequalification, complete the form and attach the necessary pages to furnish the historical record data (items A through G) in the outlined format. It is required that you use the supplied New Jersey Turnpike Authority forms. Forms can also be printed from the Authority's Internet web site "www.state.nj.us/turnpike." Submit only <u>one</u> original signed Professional Services Prequalification Questionnaire. We do not accept electronically submitted requests for prequalification.

For ten (10) Bridge Profile Codes (A091, A092, A093, A095, B156, B156S, B157, B158, D280C and D280R) detailed descriptions are included. Please carefully review these detailed descriptions to determine whether your firm is qualified to perform any of these services. Services performed as a subconsultant are not being considered for prequalification as a prime consultant. A committee will review all requests for prequalification for any of these 10 profile codes. Based upon that review, your request for prequalification for each of the 10 codes will be approved or denied. You will be notified by letter of the decision.

All applications should include the firm's two most recent annual audited financial statements, including a balance sheet and income statement. The financials should be dated within one year prior to submittal of the application. If audited financial statements are not available, the firm may submit unaudited financial statements. These should include a statement from an officer of the firm that this firm is not required to have an annual financial audit performed and that these statements present fairly in all material respects the financial condition of the firm. If the last audited financials are more than 12 months old, both audited and unaudited financials should be submitted along with an estimate of when the current financials will be available.

You are reminded that all corporations, except those incorporated under the N.J. Professional Services Corporation Act (N.J.S.A. 14a: 17-1 et seq.), which furnish professional engineering or surveying services are required by law (N.J.S.A. 45:8-56) to obtain from the N.J. Board of Professional Engineers and Land Surveyors a Certificate of Authorization. A copy of this Certificate or verification that your firm is exempt from this requirement must be included when you apply for prequalification.

Please do not enclose brochures or other forms of promotional material or for that matter, any information other than that which is required.

Forms should be mailed to the following address:

New Jersey Turnpike Authority
Engineering-Administration
P.O. Box 1121
New Brunswick, NJ 08903

The consultant prequalification questionnaire is valid for a period of two years. Every two years, you are required to submit a complete new request for prequalification. You are also required to inform the Authority and resubmit your request for your prequalification if there is a significant change in the information within the two-year period. To allow us to keep your database record current, you must inform us, in writing, of company name changes, address changes, contact person changes, phone number changes, and any other changes necessary for accurate and prompt contact and correspondence with your firm.

If there are questions regarding the process, kindly refrain from telephoning. Either write, or FAX (732) 247-4420.

Very truly yours,

Walter Urban
Project Supervisor

Enc.
WU:rd

NEW JERSEY TURNPIKE AUTHORITY

INSTRUCTIONS FOR COMPLETION OF NJTA PROFESSIONAL SERVICE
PREQUALIFICATION QUESTIONNAIRE
APPLICABLE TO PRIME CONSULTANTS

PLEASE FOLLOW THE INSTRUCTIONS BELOW CAREFULLY AS YOU COMPLETE THE ATTACHED FORMS. **FORMS THAT ARE INCOMPLETE WILL NOT BE FILED.** IF ANY PARTICULAR QUESTION IS NOT APPLICABLE, PLEASE NOTE BY PLACING AN "N/A" IN THE SPACE PROVIDED. SHOULD YOU CHOOSE NOT TO COMPLETE ANY QUESTION, PLEASE PROVIDE THE REASON WHY.

BOX NO.	INSTRUCTIONS
1.	Please provide the correct mailing address for the firm.
1a.	If your firm is a subsidiary, division or branch, please circle which applies.
2.	Please provide date of establishment of the firm seeking prequalification.
3.	self-explanatory
4.	self-explanatory
5.	self-explanatory
6.	Provide at least city & state for address for a period not less than the past 10 years.
7.	Provide street address; include total personnel and a breakdown of professional/technical versus administrative.
7a.	Count each staff member only once.
8.	List Service Groups/Profile Codes of each speciality field in which you seek to be prequalified. For each code listed a completed Request for Prequalification (PSC 8/19/97) with documentation must accompany this questionnaire.
9.	Complete the years starting with the most recent completed year.
10.	Use the appropriate index number found in this box to complete information for each year listed in Box No. 9.

NEW JERSEY TURNPIKE AUTHORITY

11. Self-explanatory

12. Indicate if your firm has been certified by the New Jersey Commerce and Economic Growth Commission. You must include a copy of the Certificate.

13. You are not required to provide the name of the firm's insurance carriers. List limits of coverage in thousands of dollars.

14. Sum of the three categories should not exceed 100%; should reflect a weighted average of clients served over the past 5 years.

15. Self-explanatory

16. <u>You are expected to separately list each Service Group/Profile Code for which you seek prequalification (as also listed in Box No. 8). Projects listed in this Box should be work performed solely by the firm and professional fees earned solely by the firm for the Profile Code listed.</u>

17. Please provide name, address and principals of consulting firms regularly doing business with your firm.

18. Application will not be accepted if not signed by an officer of the firm.

Rev. 9/8/03

Professional
Services
Prequalification
Questionnaire

1. Firm Name / Business Address / Telephone Number

1a. Submittal is for : ☐ Parent Co. ☐ Subsidiary/Division/Branch

2. Yr. Present Firm was Established:

3. Date Prepared:

4. FAX Number:

E-Mail Address:

Website:

5. Name of Principals to Contact: Title/Telephone #

6. Former Firm Name(s) and Year(s) Established: (if any)

7. List Present Offices: street address/city/state/telephone #/# of personnel in each office

7a. Personnel by Discipline (list each person only once by primary function)

__ Administrative
__ Architects
__ Chemical Eng.
__ Civil/Highway Eng.
__ Construction Eng.
__ Construction Insp.
__ Draftsman
__ Environmental Eng.
__ Electrical Eng.
__ Estimators
__ Geotechnical Eng.
__ Landscape Architect
__ Mechanical Eng.
__ Planners
__ Sanitary Eng.
__ Specs Writers
__ Structural Eng.
__ Surveyors
__ Traffic Eng.
__ Water Resources Eng.
__ Computer Programmers
__ CADD Operators

Other: _____

8. For which specialty field do you seek prequalification? List profile codes as per attachment.

____ ____ ____ ____ ____ ____ ____ ____ ____ ____

____ ____ ____ ____ ____ ____ ____ ____ ____ ____

____ ____ ____ ____ ____ ____ ____ ____ ____ ____

9. Summary of Gross Professional Fees Received

(Last 5 calendar years; Insert Index Number from Item No. 10)

19____ 20____ 20____ 20____ 20____

10. Range of Professional Service Fees

1. Less than $100,000
2. $100,000 - $250,000
3. $250,000 - $500,000
4. $500,000 - $1M
5. $1M - $3M
6. $3M - $6M
7. $7M - $9M
8. $10M - Greater

11. Type of Ownership

_ Individual
_ Partnership
_ Corporation
(State_____)
_ Partnership
(Specify_____)

12. Filing Status

__ SBE

13. Indicate Firm's Standard Insurance Coverage: ($ limits in thousands)

a. Comprehensive Automobile Liability
b. Comprehensive General Liability
c. Professional Liability
d. Workers' Compensation
e. Other (Specify)

14. What types of clients do you serve?
% of each

a. Private
b. Non-Profit
c. Government

15. Has this Firm (or firm under a previous name) every worked for NJTA?

Please provide name of project(s) and year(s) while under previous name. (Past ten years only)

16. Synopsis of Firm's Project Experience by Profile Code: (LAST 5 YEARS ONLY)

Profile Code	Number of Projects	Total Gross Fees

17. List all subconsultants regularly used by your firm:

18. I, being duly authorized, certify that the information supplied in the NJTA Professional Services Prequalification Questionnaire, including all attachments, is complete and correct to the best of my knowledge. Falsification of any of the information provided shall result in immediate disqualification.

Name (signature) Date	Witness (signature) Date
Name and Title (typed)	Witness and Witness's Title (typed)

NEW JERSEY TURNPIKE AUTHORITY

Request for Prequalification

Service Group _____

Specialty Field
Profile Code _____ Title _____

Date ___/ ___/ ___

Firm Name:
Address:

Contact Person: **Tel. No.**

Credentials
Name of individual in charge of that section of the firm which provides the services in the specialty
field for which prequalification is requested:

Number of active employees who qualify as specialists in the field by virtue of education, training, membership in professional organizations and experience:

Historical Record
On separate pages attached to this form, and in the format below indicated, furnish information on a project basis relating to previous experience in the specialty field
(profile code) requested. <u>For the experience to be credited, the date of award of the engineering agreement for each project cited must be within five years of the application date.</u>

A. Project Title/Description:

B. Name of individual in responsible charge of supplying services:

C. Client (Agency):
   Contact Person Name:
   Tel. No.

D. Describe specific services furnished for the project in the specialty field for which prequalification is requested:

E. Amount of fee for the services relating to the specialty field:

F. Date when project was awarded:

G. Current progress status (% Complete):

SCHEDULE OF SERVICE GROUPS/PROFILE CODES

Service Group A: DESIGN/PREPARATION OF CONTRACT DOCUMENTS

Code	Specialty Field
A 060	Architecture: New Buildings
A 061	Architecture: Renovations
A 062	Building Mechanical Systems
A 063	Building Electrical Systems
A 064	Building Structural Systems
A 090	Bridges: New
A 091	Bridges: Widenings and Modifications
A 092	Bridges: Miscellaneous Repairs
A 093	Bridges: Deck Replacements & Rehabilitations
A 094	Bridges: Painting/Repainting Systems
A 095	Bridges: Deck Reconstruction
A 097	Bridges: Seismic Retrofits
A 130	Communication Systems: Tel/Radio/Microwave/Fiberoptic
A 210	Building Fire Suppression Systems
A 230	Fuel Distribution and Storage Systems
A 250	Fully Controlled Access Highways
A 251	Arterials Other Than Fully Controlled Access Highways
A 252	Complex Interchanges
A 253	Signalized Intersections
A 254	Parking Facilities
A 255	Parking Garages
A 256	Toll Plazas (site, islands, tunnels, canopy)
A 257	Roadside Safety Features
A 258	Roadway Sound Barrier (not Acoustics)
A 265	Roadway Storm Water Collection Systems
A 290	Landscaping
A 300	Roadway Lighting Systems
A 301	Building Lighting Systems
A 410	Building Security Systems
A 500	Traffic Control Systems
A 501	Automatic Traffic Control & Surveillance systems
A 540	Water Treatment Facilities
A 541	Water Supply and Distribution Systems

Service Group B: CONSTRUCTION MANAGEMENT & INSPECTION

B 151	Construction Management
B 152	Project Management (Scheduling)
B 153	Roadway Construction Inspection
B 154	Roadway Resurfacing Inspection
B 155	Bridge Construction Inspection
B 156	Bridge Repair Inspection
B 156S	Bridge Repair Inspection-Specialized
B 157	Bridge Deck Repair/Replacement Inspection
B 158	Bridge Repainting Inspection
B 159	Building Construction & Renovations Inspection

Service Group C: ENVIRONMENTAL (includes all phases)

C 070	Asbestos Abatement: Surveys, Design and Inspections
C 190	Preparation of EIS and EA's
C 191	Wetland Delineations
C 192	Archaeological/Cultural Resource Studies
C 193	Air Quality Analysis/Noise Studies
C 194	Site Investigations (incl. Hazardous Waste Screening)
C 195	Soil & Groundwater Remediation Investigations
C 196	Soil & Groundwater Remediation Design
C 197	Remediation Systems: Operation & Maintenance
C 199	Industrial Hygiene Studies
C 420	Wastewater Treatment Facility: Design
C 421	Wastewater Treatment Facility: Construction Inspection
C 422	Wastewater Treatment Facility: Operation & Maintenance
C 423	Wastewater Collection, Treatment & Disposal
C 441	Soil Management & Reuse Plans
C 442	Health & Safety Plans

Service Group D: STUDIES, INVESTIGATIONS & INSPECTIONS

D 020	Highway Acoustic & Noise Abatement Studies
D 030	Aerial Photogrammetry
D 098	Bridge Management Systems
D 140	Computer Facilities and Services
D 141	Computer Software: Application Design
D 280C	Bridges - NBIS Program, Complex
D 280R	Bridges - NBIS Program, Routine
D 281	Sign Bridge Inspections
D 291	Landscaping: Horticulture/Forester/Arborist
D 320	Material Testing & Inspection
D 400	Safety: Regulatory Compliance Assistance
D 401	Safety: Training Services
D 440	Geotechnical Studies & Subsurface Investigations
D 450	Bridges: Seismic Risk & Vulnerability Analysis
D 470	Surveying: Topographic
D 471	Surveying: Property & ROW
D 490	Transportation Planning: Location & Alignment Studies
D 491	Transportation Planning: Alternative Analyses
D 492	Traffic Engineering: Data Collection & Demand Modelling
D 493	Traffic Engineering: Toll Revenue & Sensitivity Analysis
D 510	Bridges: Underwater Inspections
D 530	Value Engineering

NOTE: See detailed descriptions for the following ten (10) Bridge Profile Codes: A 091, A 092, A 093, A 095, B 156, B 156S, B 157, B 158, D 280C and D 280R. Please carefully review these detailed descriptions to determine whether your firm is qualified to perform any of these services.

DESIGN/PREPARATION OF CONTRACT DOCUMENTS

CODE A 091

BRIDGES: WIDENINGS AND MODIFICATIONS

Related to a multi-lane expressway facility, bridge widening/modification involves the expansion or major alteration of superstructure and substructure components on entire bridges. Bridge widenings are often necessary components of major highway widening projects that are undertaken to improve capacity. This type of project has a typical construction value of more than $20 Million, and a duration of 1 to 3 years.

Bridge widening/modification generally includes the following work: foundation consolidation, excavation and construction on spread or pile supported footings or special foundations; installation of new bearings, with seismic features if required; installation of a new widening superstructure including main girders, floorsystem members, deck with wearing surface, deck joints, median barrier and parapets; installation of new lighting and drainage facilities; and connecting and transitioning the new substructure, superstructure and roadway elements in the widening portion to the existing bridge.

Bridge widening/modification may also involve the following work on the existing bridge: deck repair and resurfacing, selective bearing repair and replacement, strengthening/repair or replacement of steel superstructure members; and miscellaneous substructure repairs.

The work entails the analysis and design of new bridge superstructure and substructure elements, as well as rehabilitation of existing structural elements. Special emphasis is required in the design and detailing associated with connecting the widening portions of the superstructure and substructure to the existing bridge, and the provision of a proper transition. The work also involves determination of environmental impact and identification of potential right-of-way needs and costs associated with bridge widenings. Close project coordination is required with other agencies, railroads and utilities.

The above improvements are carried out in a long term operation, with concrete construction barrier separating the traffic and work areas. Traffic is typically maintained on the existing structure and shifted away from the work zone, in order to facilitate the connection between widening and existing portions. Changes in traffic patterns, including the placement and removal of concrete construction barrier, generally necessitate the use of temporary “buffer” lanes that are permissible only during certain off-peak traffic periods. The scope may also involve rehabilitation of the existing structure prior to or following completion of the widening, which will need to be performed in stages. Design of the above improvements requires the preparation and coordination of extensive and specific maintenance and protection of traffic (MPT) plans for each stage of the work. The plans shall indicate the placement and limits of concrete construction barrier, limits of existing line striping obliteration and temporary striping, layout of lane shifts and signing, lane closing and taper locations, and other MPT provisions.

The Design Consultant shall meet the following minimum requirements:

- Thorough knowledge and experience in the preparation of preliminary and final design documents of large scale bridge widening/modification projects that have been successfully completed within the last 5 years. Projects must be of similar magnitude, involving bridges on high volume expressways. Experience shall include preparation of MPT and construction staging plans for long term, multiple stage construction.

- Experience in structural/geotechnical analysis and design, including seismic retrofit design for routine or complex bridges.

- Detailed design experience in the repair and/or replacement of deteriorated, malfunctioning bearings, steel superstructure members, and concrete substructure members.

- Familiarity with coordinating the design review procedures and requirements of other regional agencies, railroads and utilities (e.g., NJDOT, NJDEP, the Port Authority of NY & NJ, NJ Transit, Conrail, PATH, Amtrak, etc.).

- Experience in shop drawing review, construction consultation and design dispute resolution for large scale bridge improvement and structural repair contracts.

- Ability to assign sufficient, qualified, multi-disciplined technical and office support staff for large design assignments.

DESIGN/PREPARATION OF CONTRACT DOCUMENTS

CODE A 092

BRIDGES: MISCELLANEOUS REPAIRS

Related to a multi-lane expressway facility, the design requires field inspection to establish priorities for selecting repairs or replacement of bridge substructure and superstructure elements or modification of bridge appurtances, consisting of:

- Repair of deteriorated substructure concrete on abutments and piers, epoxy injection of large cracks in concrete, repairs to concrete piles, provision or replacement of protection system for piles in water, epoxy waterproofing of concrete surfaces on piers and abutments.

- Rehabilitation, replacement and/or resetting of tilted, loose or defective bearings. Replacement of sliding plate or rocker type bearings with laminated elastomeric or seismic bearings including modifications to bearing pads as required to accommodate new bearings. Performance of all calculations required to properly size the elastomeric or seismic bearings.

- Replacement of heavily corroded or damaged structural steel members such as diaphragms, cross-bracings, connection shapes, access "cat" walks, bridge railings, etc., or repairs to main structural members.

- Modification of existing bridge drainage appurtenances. Evaluation and analyzation of gutter flows in accordance with the current design manual requirements to determine the necessity of existing inlets. Elimination of flat gradient bridge joint trough drains. Investigation of the possibility of free discharging of inlets and deactivation and removal of non-functioning piping ensuring that free discharge will not result in adverse effects below.

- Rehabilitation of deteriorated or damaged timber fender systems caused by age, ice flows or vessel impacts requiring in depth visual inspection for establishing a scope of work and development of repair details. Timber core analysis may be required to determine the extent of any timber rot or borer infestation. Plastic lumber may be utilized for sheeting in certain areas when rehabilitating the system. A structural analysis of the fender system may be necessary.

- Replacement of defective bridge deck armor joint seals. Selection and design of new joint seals shall meet or exceed the criteria of current, reliable and proven high performance systems which the consultant shall research. Of importance is the specifying of appropriate cleaning and preparation methods of the existing corroded armor steel surfaces.

CODE A 092

The bridge structures involved in this project vary in size, ranging from typically 3 span low level to multi-span major bridges and viaducts, some of which are high level, up to 100 feet above ground and/or water. The inspection personnel shall be comfortable with these heights in order to be able to make an effective condition assessment.

The field inspection requires the use of ladders, high reach equipment or a snooper platform. A boat is required at some structures. The inspection shall determine the extent and condition of spalled, deteriorated concrete, bearings, and establish repair priorities.

The Consultant's Design Engineer is required to:

- Have a minimum of five years experience in bridge substructure repair and preparation of contract documents of this nature.

- Be experienced with repair or replacement of the above outlined bridge elements and appurtenances, involving appropriate techniques, construction procedures and material applications.

- Be familiar with associated repair materials such as the cementitious compounds (non-shrink, non-metallic grouts or mortars), various type concretes, bonding compounds, injection material and waterproofing (epoxies).

- Be accustomed to effectively review shop drawings, perform structural analysis and provide field consultation to the Resident Engineer.

- Be familiar with coordinating procedures and requirements of other agencies' (i.e. NJDEP, NJDOT) and Railroads (Conrail, Amtrak, N.J. Transit, P.A.T.H. Corp.)

DESIGN/PREPARATION OF CONTRACT DOCUMENTS

CODE A 093

BRIDGES: DECK REPLACEMENTS AND REHABILITATIONS

Related to a multi-lane expressway facility, the scope of work encompasses field inspection and establishment of priorities for bridge deck repairs involving selective replacement of complete deteriorating deck panels bounded by stringers and diaphragms; partial depth concrete spall repairs; joint header, abutment headblock and joint riser bar replacement or repairs; armor joint modification, joint seal installation or replacement; safety walk and curb surface repairs with provisions for temporary electrical lighting service; isolated parapet replacement including new electrical conduits and service; provisions for restoration of traffic loop detectors; removal and replacement of existing asphalt wearing surface with a new membrane/asphalt system or with a high density, impermeable, cementitious overlay. Deck replacements require the use of Type 4 concrete barrier. Layout and joint class is to be determined by the design consultant. Project needs to be coordinated on a short term basis with other agencies, railroads and utilities.

The above repair work is usually carried out in partial weekly or weekly (maximum, six day) construction stages within single or multi-lane closings. The majority of the deck replacements, because of their location and due to the use of the concrete construction barrier, frequently require utilization of the shoulders, which may need to be reinforced, prior to use as a traffic lane. Shifting of traffic is being accomplished by means of obliteration of the existing striping and use of temporary striping. Placement and removal of the concrete construction barrier, in general, necessitates use of "buffer" lanes which are only permissible during certain off peak traffic times which vary depending on location.

The design, aside from the delineation, detailing, specifying and estimating of the proposed repairs, requires extensive and specific maintenance and protection of traffic plans showing limits of line striping obliteration, temporary striping, placement and limits of concrete construction barrier, locations of lane closing tapers, lane shifts and signing, and traffic device placement. The consultant shall determine and outline in the supplementary traffic specifications, in consultation with the Authority's Operations Department, the allowable lane closing hours for each bridge and construction stage based on the work volume, traffic tolerance and traffic patterns. Permissible multi-lane and/or buffer lane closing hours for placement and removal of the maintenance and protection of traffic devices, and holiday restrictions shall also be established. The scope of work also includes post design services consisting of shop drawing review, checking of structural calculations and construction consultation.

The consultant shall have:

- Prior experience and knowledge in preparing construction contracts of this nature for similar major, high volume expressways involving the above outlined repair approach and construction techniques as well as maintenance and protection of traffic procedures and requirements.

- Thorough knowledge of application of pertinent repair materials such as various concretes with admixtures, and/or modifiers, special cementitious patching compounds, preformed waterproofing membranes, high stability asphalt concrete bridge surfacing mixes, with additives or blended special bitumens, elastomeric concretes, rubberized asphalts for plug joints and composite steel shapes for joint replacements.

- In depth familiarity with closing of traffic lanes for construction, implementation of lane shifts or detours, positioning of concrete construction barrier, impact attenuators, trucks with mounted attenuators and variable message signs.

- Knowledge of contractor's employment of equipment and manpower and production rates for scheduling the work within specific construction stages and lane closing time frames which are to be determined by the consultant.

The contract documents shall be prepared in accordance with the Authority's Design Manual, Standard Drawings and Standard Specifications.

11/8/96

DESIGN/PREPARATION OF CONTRACT DOCUMENTS

CODE A 095

BRIDGES: DECK RECONSTRUCTION

Related to a multi-lane expressway facility, deck reconstruction involves complete redecking on entire bridges, including viaducts and major bridges. Redecking may involve all deck panels, or only those panels that have not been replaced within the last 10 to 15 years. The construction value of this scale of deck reconstruction project is typically more than $20 Million.

Deck reconstruction generally includes replacement of deck joints, median barrier, parapets, lighting and drainage facilities within the project limits. The work may also involve deck repair/resurfacing, selective bearing repair and replacement, strengthening/repair or replacement of steel superstructure members, seismic retrofit, miscellaneous substructure repairs, limited repainting, and approach roadway improvements. This type of project has a typical construction duration of 1 to 3 years, and requires close coordination with other agencies, railroads and utilities.

The design may entail studying various deck reconstruction systems, and recommending a feasible alternative based on initial construction and maintenance costs, project impact on traffic operations, constructability, performance, project impact on other agencies and utilities, and other key factors. Various deck reconstruction alternatives may include cast-in-place concrete with a high density, impermeable, cementitious overlay, high performance concrete with no overlay, and precast concrete and grid systems. Conversion of the new deck and existing floorsystem members from non-composite to composite design may also be required, if applicable.

The above improvements are carried out in a long term, multiple stage operation, with concrete construction barrier separating the traffic and work areas. Maintenance and Protection of Traffic (MPT) for this staged construction typically uses the shoulders as temporary traffic lanes, thereby providing room for a work zone. This approach frequently requires preparatory work in the shoulders prior to the shifting of traffic, in order to ensure an even, durable riding surface during the long term construction. MPT may also require detouring traffic into the opposing roadway, by constructing median crossovers and placing concrete construction barrier to separate opposing directions of traffic. Changes in traffic patterns, including the placement and removal of concrete construction barrier, generally necessitate the use of temporary “buffer” lanes that are permissible only during certain off-peak traffic periods.

Design of the above improvements requires the preparation and coordination of extensive and specific maintenance and protection of traffic (MPT) plans for each stage of the work. The plans shall indicate the placement and limits of concrete construction barrier, limits of existing line striping obliteration and temporary striping, layout of lane shifts and signing, lane closing and taper locations, and other MPT provisions.

The Design Consultant shall meet the following minimum requirements:

- Thorough knowledge and experience in the preparation of alternative studies, and preliminary and final design documents of deck reconstruction projects that have been successfully completed within the last 5 years. Projects must be of similar magnitude, involving bridges on high volume expressways. Experience shall include preparation of MPT and construction staging plans for long term, multiple stage construction.

- Working knowledge of proven conventional and alternative construction materials and deck systems currently being used by other regional transportation agencies.

- Structural analysis and load rating capabilities.

- Experience in performing seismic vulnerability assessments and final seismic retrofit design for routine or complex bridges.

- Experience in the preparation of contract documents for bridge repainting.

- Detailed design experience in the repair and/or replacement of deteriorated, malfunctioning bearings, steel superstructure members, and concrete substructure members.

- Familiarity with coordinating the design review procedures and requirements of other regional agencies, railroads and utilities (e.g., NJDOT, NJDEP, the Port Authority of NY & NJ, NJ Transit, Conrail, PATH, Amtrak, etc.).

- Experience in shop drawing review, construction consultation and dispute resolution for large deck reconstruction and structural repair contracts.

- Ability to assign sufficient, qualified technical and office support staff for large design assignments.

CONSTRUCTION MANAGEMENT AND INSPECTION

CODE B-156

BRIDGE REPAIR INSPECTION

Related to a multi-lane expressway facility for supervision of construction services to be provided for the repairs, modification or replacement of bridge substructures, underdeck superstructures, drainage, fenders and bridge deck joint seals more particularly consisting of:

- Repairs of deteriorated substructure concrete on abutments and piers, epoxy injection of large cracks in concrete, repairs to concrete piles, waterproofing of concrete surfaces on piers and abutments.

- Rehabilitation, replacement and/or resetting of tilted, loose or defective bearings. The replacement of existing sliding plate or rocker type bearings with laminated elastomeric or seismic bearings, and bearing pad modification, as required.

- Replacement of heavily corroded or damaged steel structural members (diaphragms, cross-bracings, bridge railings, etc.), or repairs to main structural members.

- Bridge drainage modifications consisting of rerouting and/or modification of existing inlet piping, conversion of inlets to free discharge and elimination of inlets, piping, and joint trough drains.

- Repair of existing river pier protection timber fender systems, damage caused by age, ice floes or vessel impacts.

- Replacement of defective bridge deck joint seals which includes removal of existing damaged or deteriorated seals, proper cleaning and preparation of joint steel surfaces and installation of new seal systems.

The work is scheduled on various size bridge structures, some of which may be large bridges or long viaducts with substructures up to 100 feet in height.

The contract documents designate the work locations, items of work to be performed and specific requirements. The Consultant has the responsibility of laying out the limits of certain work items such as spall repairs, epoxy injection, waterproofing, etc.

Key requirements for this assignment are:

- Assigning sufficient, experienced personnel to staff the project. Personnel shall be comfortable with heights up to 100' above ground and/or water and able to work from pipe scaffolding, cable scaffolding, and high reach equipment. Perform inspection services in expressway lane and shoulder closings during the day and/or at night, as required.

- Being familiar with sliding and rocker type bearing components and assembly, and have experience in jacking, blocking, removing, disassembling, repairing or replacing bearings under live load conditions.

- Having a working knowledge of fender system repair (pile driving, timber installations and connections, application of weather preservatives, being familiar with various wood grades or polyethylene plastic planking, board foot measuring, etc.).

- Laying out and scheduling of "If and Where Directed by the Engineer" items of work contained in the contract documents. Documenting limits of said work.

- Reviewing the contractors request for lane or shoulder closings and supplementary State Police traffic patrols for conformance with the contract specifications, and relay those requests, after endorsement, in a timely fashion to the Authority's Operations Department for action at the weekly lane closing meeting.

- Providing supervision of construction services in accordance with the Authority's Manual for Construction, ascertaining that all work is performed and all materials are furnished and installed in strict compliance with the contract plans and specifications.

The Resident Engineer/Inspector shall meet one of the following qualification criteria:

1. National Institute for Certification of Engineering Technologies (NICET) as a Transportation Engineering Technician, Highway Construction Level III, minimum of three years experience in bridge structural repairs, two years of which shall have been spent full time on construction contracts in the capacity of Resident Engineer/
   Inspector.

2. Minimum of five years experience in bridge structural repairs, three years of which shall have been spent full time on construction contracts in the capacity of Resident Engineer/Inspector.

CONSTRUCTION MANAGEMENT AND INSPECTION
BRIDGE REPAIR INSPECTION - SPECIALIZED
CODE B 156-S

Related to a multi-lane expressway facility, the projects primarily will involve construction supervision services to be provided for specialized structural repair work as follows:

- Construction of redundant supports (shelf beam bracket, sling, J-hook, etc.) for pin and hanger connections on fracture critical steel members.

- Replacement or repair of heavily corroded, damaged or missing structural steel members and suspender cable systems.

- Specialized repair and component replacement work involving specialty measurements, specialized jacking (simultaneous jacking of one span, jacking from false work, installation and use of column harnesses, etc.), and welding and bolting of fracture critical members.

The projects may also include other non-specialized tasks such as:

- Bridge drainage modifications consisting of rerouting and/or modification of existing inlet piping, conversion of inlets to free discharge and elimination of inlets, piping, and joint trough drains.

- Replacement of defective bridge deck joint seals (or placement of new joint seals in existing open joints) which includes removal of existing damaged or deteriorated seals, proper cleaning and preparation of joint steel surfaces and installation of new seal systems. Joint header replacement or repair and armor joint modifications.

- Bridge repainting/painting - abrasive blast cleaning of weathering steel surfaces; fabrication, erection and operation of blasting containment systems; collection, storage, tracking and disposal/reclamation of waste generated by surface preparation operations.

- Other tasks as required.

A thorough knowledge of, and experience in applying, current AASHTO codes regarding welding and bolting of structural steel (painted and weathering), including fracture critical members, specialty measurements and testing, to construction projects of over $1 million in magnitude is required. The consultant shall be fully experienced with the above-outlined repair approach work operations which shall include but not be limited to:

- Shop and field welding codes, procedures, and non-destructive testing methods

- Shop and field galvanizing

- Drilling and bolting with or without direct tension indicators
- Familiarity with various high grade structural steels

The consultant shall also be familiar with maintenance and protection of traffic procedures and requirements.

The work may be scheduled on bridge structures which may be large bridges or long viaducts with substructures up to 100 feet in height. Work may be over waterways, local roads, railroads and other facilities. Personnel shall be comfortable with heights up to 100' above ground and/or water and able to work from pipe scaffolding, cable scaffolding, and high reach equipment. Perform inspection services in expressway lane and shoulder closings during the day and/or at night, as required.

The consultant shall provide supervision of construction services in accordance with the Authority's Manual for Construction, ascertaining that all work is performed and all materials are furnished and installed in strict compliance with the contract plans and specifications.

CONSTRUCTION MANAGEMENT & INSPECTION

CODE B 157

BRIDGE DECK REPAIR/REPLACEMENT INSPECTION

Related to a multi-lane expressway facility, the project involves selective replacement of complete deck panels bounded by stringers and diaphragms; partial depth concrete spall repairs; joint header, abutment headblock and joint riser bar replacement or repairs; armor joint modifications; joint seal installation or replacement; safety walk and curb surface repairs with provisions for temporary electrical lighting service; isolated parapet replacement including new electrical conduits and service; provisions for restoration of traffic loop detectors; removal and replacement of existing asphalt wearing surface with a new membrane/asphalt system or with a high density, impermeable, cementitious overlay.

Lanes are being closed with traffic cones and repair work consisting of the above outlined items is being carried out within the coned off closings. Deck replacements are being performed within Type 4 concrete construction barrier enclosures. The majority of the deck replacements, because of their location encroaching on the adjacent lane or straddling two lanes, and due to the use of the concrete construction barrier, frequently require implementation of lane shifts or traffic detours and utilization of the shoulders, as a traffic lane. The shifting of traffic is effected by obliteration of the existing line striping and use of temporary line striping. Placement and removal of the temporary line striping and of the concrete construction barrier, in general, necessitates the closing of supplementary or "buffer" lanes which are only permissible during certain off peak traffic times, usually late at night.

The above work operations are usually carried out in condensed, part weekly or weekly construction stages within single or multi-lane closings. Due to the around the clock work, minimum two shift staffing is required involving, typically, 8 to 12 personnel for the field supervision. Maximum staffing is usually needed over weekends when the work stages commence and the Contractor handles the largest work volumes.

The Consultant personnel for this assignment shall be fully experienced with the above outlined repair approach and work operations as well as maintenance and protection of traffic procedures and requirements. All personnel shall have a thorough knowledge of inherent repair techniques and proper material applications, and be accustomed to high quality control standards and be capable of achieving same. Typical materials involved are various concretes with admixtures, and/or modifiers, special cementitious patching compounds, preformed waterproofing membranes, high stability asphalt concrete bridge surfacing mixes, with additives or blended special bitumens, elastomeric concretes, rubberized asphalts for plug joints and composite steel shapes for joint replacements.

The Consultant shall provide inspection services in accordance with the Authority's Manual for Construction, ascertaining that all work is performed and materials are furnished and installed in strict compliance with the contract plans and specifications

CONSTRUCTION MANAGEMENT & INSPECTION
BRIDGE PAINTING/REPAINTING

CODE B-158

Related to a multi-lane expressway facility, these projects involve the painting and/or repainting of highway bridge structures. Bridge Repainting/Painting, in general, includes abrasive blast cleaning of previously painted and weathering steel surfaces; fabrication, erection and operation of blasting containment systems; collection, storage, tracking and disposal/reclamation of waste generated by surface preparation operations; substructure waterproofing; and other incidental related construction work.

These work operations involve work over the Turnpike Mainline, State, County and Local Highways, Railroads and Waterways. The work is carried out in multiple stages within single or multi-lane, coned off closings, using short duration work cycles to permit the maximal flow of traffic during construction and peak volume periods. Due to very frequent around the clock and weekend work, minimum two shift staffing is required at certain times, involving, typically, 3 personnel comprising of a Resident Engineer/Inspector and two Inspectors, for field supervision.

The Consultant personnel for this assignment shall be fully experienced with the above work as well as maintenance and protection of traffic procedures and requirements involving shoulder and lane closings and the associated coordination responsibilities for those closings.

All personnel shall be fully experienced in the inspection and quality control of bridge painting work which shall include a thorough working knowledge in the basic principles of structural steel corrosion; condition assessment of existing paint systems; Steel Structure Painting Council (SSPC) specifications and guides
for; lead paint containment and ventilation systems, methods of work and standards for mechanical and abrasive blast cleaning surface preparations, application of high performance coating systems, use of paint inspection equipment and field testing procedures; current Federal, State and OSHA regulations covering the environment, worker health and safety guidelines and certification requirements; hazardous paint handling, removal and disposal, and staged construction.

The Consultant shall provide inspection services in accordance with the Authority's Manual for Construction, ascertaining that all work is performed and materials are furnished and installed in strict compliance with the contract plans and specifications.

CODE D 280-C

BRIDGES - NBIS PROGRAM, COMPLEX

Related to a multi-lane expressway facility, the scope of work involves the scheduling and managing of field inspection/report preparation, within a limited time frame, for:

- Several hundred (200-300) routine bridges requiring a NBIS level inspection

or

- Several hundred (200-300) routine bridges requiring a cursory level inspection combined with detailed and in-depth inspection of major, complex bridges.

A routine bridge is typically a mainline structure with an average of four simple spans and multi-stringer system which carries multi-lane/direction traffic. A complex bridge is typically a major long span mainline structure, or multi-span viaducts, with complicated structural framing and non-redundant fracture critical members. These include stringer-floorbeam-girder systems and truss systems. The level of inspection, depending upon the schedule, requires routine and in-depth inspections for both classifications of bridges.

The scope of work will also require PONTIS and Seismic Inspections for both bridge classifications, FHWA SI&A Form updates, Fracture Critical Member Inspection and Underwater Inspections of routine bridges, Sign Bridge Inspections, Culvert Inspection, and special assignments, including design, which supports the Inspection Program. Office Support involves the structural review of all inspections, development of Risk Carrier Summary and Program Summary Reports, and structural analysis to determine load ratings.

Minimum Requirements

- Prior experience, on high volume expressways, with the scheduling and inspection/report preparation for large groups of routine bridges and in-depth inspection of complex, major steel bridges with non-redundant fracture critical members, within a limited time frame (one year).

- Familiarity and past experience with PONTIS and Seismic Inspections.

- Structural Load Rating capabilities.

- NBIS Qualified Inspection personnel.

- Qualified Office Support personnel.

- Availability of staff for large inspection assignments.

CODE D 280-R

BRIDGES - NBIS PROGRAM, ROUTINE

Related to a multi-lane expressway facility, the scope of work involves the scheduling and managing of field inspection/report preparation for a small number (5 to 10) of routine bridges.

The scope of work may also require PONTIS and Seismic Inspections, FHWA SI&A Form updates, Fracture Critical Member Inspection, Underwater Inspections of bridges and Culvert Inspection. Office Support involves the structural review of all inspections, development of Risk Carrier Summary and structural analysis to determine load ratings.

Minimum Requirements

- Prior experience on high volume expressways and inspection report preparation.
- Familiarity and/or past experience with PONTIS and Seismic Inspections.
- Structural Load Rating capabilities.
- NBIS Qualified Inspection personnel
- Qualified Office Support personnel